ROUTING SLIP BRANCH OF WILDLIFE REFUGES DATE: _____ 195__

MR. SALYER _____

MR. KRUMMES _____

MR. DUMONT _____

MISS BAUM _____

SECTION OF HABITAT IMPROVEMENT:

~~MR. GRIMETH~~ REG

DR. BOURN WEB

SECTION OF OPERATIONS:

MR. BALL _____

MR. REGAN _____

DR. MORLEY _____

SECTION OF LAND MANAGEMENT:

MR. ACKERKNECHT _____

_____

STENOGRAPHERS:

_____ _____

_____ _____

_____ _____

NARATIVE REPORT

REFUGE: SLADE (Easements)

PERIOD: SEPT - DEC., 1950

SLADE NATIONAL WILDLIFE REFUGE
EASEMENT DISTRICT NO. I
NARRATIVE REPORT

SEPT - DEC 1950

Jacob M. Valentine, jr.- Refuge Manager

SLADE NATIONAL WILDLIFE REFUGE
EASEMENT DISTRICT NO. 1
NARRATIVE REPORT
Sept- Dec 1950

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SLADE NATIONAL WILDLIFE REFUGE
EASEMENT DISTRICT NO.1
NARRATIVE REPORT

SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER 1950

I. GENERAL

Flickertail, Lake Moraine, Wildfang and Yanktonai Refuges were virtually abandoned during this period because of previously damaged structures and the subsequent loss of water. The stuctures are irreparable with the limited appropriations for easement refuges. The signs and posts were removed from the above refuge boundaries. On the remaining refuges the structures were repaired or remained in a generally good condition. Most of the refuges were reposted and damaged signs replaced by new ones.

The migratory waterfowl population was not as high this period as in previous fall periods but this is probably due to the greater scattering of the ducks during this period of abundant water.

No waterfowl depredation complaints were received during the period. One case of beaver damage was reported.

The water levels remained high; perhaps too high for best utilization. No botulism was noted on the refuges.

Precipitation was light during September, October and November in the area of the easement refuges, which made travel and work somewhat easier than in some of the previous seasons.

II. APPERT LAKE

This refuge was visited on September 25 in the company of Mr. Homer Bradley, to determine the extent of flood damage to the cropland of Mr. Pius Biegler (N/½ Sect. 10 T-134N, R-76W). ~~Various~~ Transit readings of the various water levels were taken by Mr. Bradley and a report sent to the Regional Office. Mr. Biegler apparently has registered complaints re the flooding of his land and ensuing damage since 1943.

Mr. Bradley and the writer again visited the refuge on November 5, to check on the reported waterfowl violations on the refuge. Though we remained hidden for several hours until after dark, no trespassers were seen. Large flocks of ducks left the refuge at dusk to feed in the fields west of the refuge.

On November 14 the entire lake was frozen and no

On November 14 the entire lake was frozen and no waterfowl were seen. The impounded waters are completely surrounded by grassland--either hay or pasture--but approximately 3/4th of the entire refuge is in cropland.

The eroded cut-back from the riprapped spillway channel was filled with rock to stop further damage to the spillway. $40.00 from Slade funds were expended to complete this work. A total of 17 ½ yards of rock placed.

III. CANFIELD LAKE

Canfield Lake was visited October 18. A number of signs were replaced. The lake level remains high and the adjacent sloughs to the south have much water in them. The island in the lake was completely innndated. The lake has a gravel bottom with very little emergent vegetation at this time. The lake is almost completely surrounded by brush--hawthorn, cottonwood, chokecherry, and willow. A great horned owl was flushed from along the border of the lake. About 2,000 ducks were resting on the lake, 75% mallards.

IV. FLICKERTAIL

The refuge was visited with Mr. Bradley on September 25. All of the signs have been removed; the spillway is gone and the watercourse completely dry. No waterfowl were seen.

V. FLORENCE LAKE

An inspection of the refuge was made on October 18, and a number of signs were replaced. There are no dikes or dams at this refuge. The land-use is grazing but this is not heavy. A large stand of bulrush is scattered throughout the lake, especially on the north end.

VI. LAKE HUTCHINSON

The refuge was visited on October 20 and 21, for the purpose of inspection and the replacement of signs. The dike was in fair condition with some trampling of the edges due to heavy cattle use. Very little grass has colonized the dike and the presence of annual weeds attest to the fact of overgrazing and trampling. No muskrat burrowing was found on the dike. No emergent vegetation is found on the north end of the lake, also due to grazing.

Eight patches of bulrush were found in the small lake known as Unit No. 1. Some emergents (Scipus sp.) are growing in the drainage ditch. The resident farmer reported geese to be resting on the large lake (Unit No. 2) but they were not seen by the writer.

VII. LAKE MCRAINE

When this refuge was visited on October 17, the water level was very low--ca. 3 to4 feet below the spillway--due to the washout in the west end of the dam, as reported in the Narrative Report of August 1950. On verbal instructions from F. C. Gillett, the signs and posts were removed from the refuge boundaries.

VIII. LITTLE LAKE

An inspection of the refuge was made on September 19, in the company of Mr. Bradley. Considerable damage to the dike was noted and a full report and recommendations for the repair was sent to the Regional Office by Mr. Bradley. The recommendations were approved. On October 25, Mr. Bradley and the writer inspected and replaced damaged signs on the refuge east of the railroad. Two inches of water was flowing over the spillway.

Work on the dike began on October 26. The spillway and culvert sections were removed and the void filled with dirt. The fill-in was riprapped from the water's edge to the top of the rise. The overflow will pass over the natural spillway which is well sodded. Equipment (tractor and loader, and dump truck) was from the Long Lake Refuge. A total of $210.00 was expended in the hiring of men. The work was completed on November 8. The water raised about 3 inches after the removal and closure of the drop spillway and began creeping onto the natural spillway.

The land-use remains grazing and is still heavy, especially near the water's edge.

A good growth of sago pondweed was found in the impounded water near the dike. In the upper reaches of the impounded water, Myriophyllum sp. is found.

IX. LOST LAKE

The refuge was visited by Mr. Bradley and the writer on October 4. There was $\frac{1}{2}$ inch of water flowing over the spillway. The ditch was inoperative at spillway level, being 80% plugged with sand due to fill-erosion and cattle trampling. There were no ducks on the large lake. Several herring gulls and 3 avocets were seen. Six beds (ca. 30 feet diameter) of hardstem bulrush were growing near shore. River bulrush was growing

on the shore;this was grazed so there were no flowering heads. Avocets wading out a hundred feet indicated the depth of water in this lake. A carp (ca. 9 inches long) was found near the ditch, probably carried and dropped by aheron or mammal.

On October 10, the writer visited the refuge to repost and replace damaged signs. Few ducks were seen. The Painted Woods Creek running through the refuge has ideal habitat for mink and much sign was seen.

Five hundred mallards were counted on October 17, when the writer continued reposting the refuge. They were all flushed from the sheltered bay on the west side of the lake. Thirty avocets were seen wading on the north side of the lake.

X. SPRINGWATER

On September 25, Mr. Bradley and the writer visited the refuge for the purpose of reposting and inspecting the area. Mr. Bradley was hurt while putting in the first post so operations were suspended. The refuge was visited on November 28 to investigate the beaver dam and the extent of damage reported by Mrs. Elsie Schwab, owner of the S-E$\frac{1}{4}$ of Sect. 28, T-133 R-75W. The dam is located on Clear Creek, $\frac{1}{4}$ mile south of the road. One side of the bank is a brushy chokecherry covered slope and the other side is grazed. There was damage to the trees and the water is backed up to the farm yard where the stock is watered. The dam could become a hazard, especially in the spring. The beaver apparently have been there for a season prior to this as evidenced by old cuttings. The owner first noticed beaver workings in September when the dam was begun. Old refuge reports show that the owner had requested trapping permits for beaver prior to this year.

The owner's son had applied for a state trapping permit and a permit was issued from this station to trap on the refuge.

The dam and spillway was inspected. The concrete lip of the drop-culvert spillway remains in disrepair. The damage was done prior to this spring. Cover conditions were very good. Fourteen pheasants were counted on the area in the S-E $\frac{1}{4}$ of Sect. 28.

XI. SUNBURST

The refuge was visited November 4. The water was about 4 inches below the level of the spillway which was in a generally fair condition. The dam was in good condition. There were very few ducks on the impoundment. Empty shotgun shells were evidence of illegal hunting.

The land is grazed around the impoundment but not to a great extent. Much of the land adjacent to the water is in shelterbelt or wild prairie grass. The island in the lake is in grass and is ungrazed. A good growth

of sago pondweed was found growing along the south shore.

Twenty pheasants were counted on the refuge.

XII. WILDFANG

Wildfang Refuge was visited October 19 and the one remaining sign was removed. Water remains in the West Branch of Apple Creek but no impoundment is found due to the damaged dam. One gadwall was seen.

XIII. YANKTONAI

Mr. Bradley and the writer visited the refuge on October 4. No water fowl were seen.

On October 9, the refuge was again visited for the purpose of removing the signs. No ducks were on the impoundment. Empty shotgun shells showed illegal hunting had been going on. On October 10, four pheasants, one pintail, one pied-bill grebe, one greater yellowlegs, and one great blue heron were noted. A beaver dam and cache were found in an aspen glen in the creek in Sect. 31. The impoundment extends back 200 feet.

All signs and posts were removed from the refuge boundary.

XIV. SUMMARY

Perhaps the greatest problem on the easement refuges is the enforcement problem. Evidence or reports of illegal shooting gave credence to this fact. Appert Lake especially is a "hot spot" for poaching activities.

Another problem is the lack of control of the land-use. Almost every refuge was heavily over-grazed which doubtless has diminished the production of waterfowl. The cattle even wade cut into the water to browse on the emergent vegetation. Some of the stuctures should be fenced to exclude grazing and trampling of the dikes.

No photographs were taken during the period.

Prepared by Jacob M. Valentine, Jr.
Refuge Manager

January 7, 1951

Approved: JAN 12 1951

ACTING REGIONAL DIRECTOR

Homer L. Bradley.
Homer L. Bradley, Refuge Manager

WATERFOWL

Refuge Appert Lake Months of Sept. to Jan. 194x 50

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan									
II. Geese:									
Canada goose									
Cackling goose									
Brant									
White-fronted goose									
Snow goose									
Blue goose									
III. Ducks:									
Mallard			600	11/5					2,000
Black duck									
Gadwall									
Baldpate									
Pintail									
Green-winged teal									
Blue-winged teal									
Cinnamon teal									
Shoveller									
Wood duck									
Redhead									
Ring-necked duck									
Canvas-back									
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck									
IV. Coot:									

SUMMARIES

Total Production:

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 5,000

Peak waterfowl numbers 1,500

Areas used by concentrations Impounded waters

_____

Principal nesting areas this season _____

_____

Reported by Jacob M. Valentine, jr.
Jacob M. Valentine, jr.
Refuge Mgr.

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

2338

WATERFOWL

Refuge Canfield Lake Months of Sept. to Dec. 1950

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan									
II. Geese:									
Canada goose									
Cackling goose									
Brant									
White-fronted goose									
Snow goose									
Blue goose									
III. Ducks:									
Mallard			1,500	10/18					4,000
Black duck									
Gadwall									
Baldpate									
Pintail									
Green-winged teal									
Blue-winged teal									
Cinnamon teal									
Shoveller									
Wood duck									
Redhead									
Ring-necked duck									
Canvas-back									
Scaup			600	10/18					1,000
Golden-eye									
Buffle-head									
Ruddy duck			20	10/18					100
IV. Coot:									

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period 7,000

Peak waterfowl numbers 2,000

Areas used by concentrations Entire lake

Principal nesting areas this season

Reported by Jacob M. Valentine, jr.
Jacob M. Valentine, jr.
Refuge Mgr.

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

2338

WATERFOWL

Refuge Florence Lake Months of Sppt. to Dec. 19X4 50

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan									
II. Geese:									
Canada goose									
Cackling goose									
Brant									
White-fronted goose									
Snow goose									
Blue goose									
III. Ducks:									
Mallard			60	10/18					800
Black duck									
Gadwall			4	10/18					200
Baldpate									
Pintail									
Green-winged teal									
Blue-winged teal									
Cinnamon teal									
Shoveller									
Wood duck									
Redhead			14	10/18					400
Ring-necked duck									
Canvas-back									
Scaup			8	10/18					200
Golden-eye									
Buffle-head									
Ruddy duck									
IV. Coot:			80	10/18					300

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period 2,500

Peak waterfowl numbers 800

Areas used by concentrations Entire lake

Principal nesting areas this season

Reported by Jacob M. Valentine, jr.
Jacob M. Valentine, jr.
Refuge Mgr.

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

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2338

WATERFOWL

Refuge Lake Hutchinson Months of Sept. to Dec. 194 50

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan									
II. Geese:									
Canada goose									
Cackling goose									
Brant									
White-fronted goose									
Snow goose									
Blue goose									
III. Ducks:									
Mallard			400	10/20					1,200
Black duck									
Gadwall			120	10/20					800
Baldpate									
Pintail									
Green-winged teal									
Blue-winged teal									
Cinnamon teal									
Shoveller									
Wood duck									
Redhead			200	10/20					600
Ring-necked duck									
Canvas-back									
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck									
IV. Coot:									

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period 3000

Peak waterfowl numbers 900

Areas used by concentrations Entire lake

Principal nesting areas this season

Reported by Jacob M. Valentine, jr.
Jacob M. Valentine, jr.
Refuge Mgr.

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

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2338

WATERFOWL

Refuge Little Lake Months of Sept to Dec 1950

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan									
II. Geese:									
Canada goose									
Cackling goose									
Brant									
White-fronted goose									
Snow goose									
Blue goose									
III. Ducks:									
Mallard			60	10/26					400
Black duck									
Gadwall			4	9/19					30
Baldpate									
Pintail									
Green-winged teal									
Blue-winged teal			1	9/19					40
Cinnamon teal									
Shoveller									
Wood duck									
Redhead			3	11/1					20
Ring-necked duck									
Canvas-back			2	10/30					10
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck									
IV. Coot:									

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period 600

Peak waterfowl numbers 200

Areas used by concentrations Impounded waters

Principal nesting areas this season_____

Reported by Jacob M. Valentine, jr.
Jacob M. Valentine, jr.
Refuge Mgr.

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

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2338

WATERFOWL

Refuge Lost Lake Months of Sept to Dec 194~~4~~ 50

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan									
II. Geese:									
Canada goose									
Cackling goose									
Brant									
White-fronted goose									
Snow goose									
Blue goose									
III. Ducks:									
Mallard			500	10/17					1,200
Black duck									
Gadwall									
Baldpate									
Pintail									
Green-winged teal									
Blue-winged teal									
Cinnamon teal									
Shoveller									
Wood duck									
Redhead									
Ring-necked duck									
Canvas-back									
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck									
IV. Coot:									

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period 1,500∅

Peak waterfowl numbers 600

Areas used by concentrations Bay in the west end.

Principal nesting areas this season_____

Reported by Jacob M. Valentine, jr.
Jacob M. Valentine, jr.
Refuge Mgr.

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

2338

WATERFOWL

Refuge Springwater Months of Sept. to Dec. 194X 50

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan									
II. Geese:									
Canada goose									
Cackling goose									
Brant									
White-fronted goose									
Snow goose									
Blue goose									
III. Ducks:									
Mallard									
Black duck									
Gadwall									
Baldpate									
Pintail									
Green-winged teal									
Blue-winged teal									
Cinnamon teal									
Shoveller									
Wood duck									
Redhead									
Ring-necked duck									
Canvas-back									
Scaup									
Golden-eye									
Buffle-head									
Ruddy duck									
IV. Coot:									

No waterfowl were seen due to the lateness of the season when the refuge was visited.

3-1750
(July 1946)

(over)

Form NR-1

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period_____

Peak waterfowl numbers_____

Areas used by concentrations_____

_____

Principal nesting areas this season_____

_____

Reported by Jack M. Valentine

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

2338

WATERFOWL

Refuge Sunburst Months of Sept to Dec 194~~7~~ 50

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for Period
I. Swans:									
Whistling swan									
II. Geese:									
Canada goose									
Cackling goose									
Brant									
White-fronted goose									
Snow goose									
Blue goose									
III. Ducks:									
Mallard			4	11/4					200
Black duck									
Gadwall									
Baldpate									
Pintail									
Green-winged teal									
Blue-winged teal									
Cinnamon teal									
Shoveller									
Wood duck									
Redhead			6	11/4					80
Ring-necked duck									
Canvas-back									
Scaup			4	11/4					40
Golden-eye									
Buffle-head									
Ruddy duck									
IV. Coot:									

SUMMARIES

Total Production:

Geese_____

Ducks_____

Coots_____

Total waterfowl usage during period 400

Peak waterfowl numbers 200

Areas used by concentrations Impounded waters

Principal nesting areas this season

Reported by Jacob M. Valentine, jr.
Jacob M. Valentine, jr.
Refuge Mgr.

INSTRUCTIONS

(1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance.

(2) First Seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.

(3) Peak Concentration: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned in the reporting period.

(5) Young Produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.

(6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

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